COMPUTER SYSTEM WITH HEAP RESET

ABSTRACT

A computer system provides an object-based virtual machine environment for running successive applications. The computer system includes storage, at least a portion of which is logically divided into two or more heaps in which objects can be stored. A first heap is reset between successive applications, and a second heap persists from one application to the next. A card table is provided which comprises multiple cards, each corresponding to a region of said storage. Each card in the card table is set to null when the first heap is reset between successive applications. A card is marked whenever an object in its corresponding storage region is created or updated. It is then possible to detect potential references from the second heap to the first heap at reset by scanning the cards in the card table corresponding to the second heap, and detecting any cards which have been marked.

The system further identifies any objects on the first heap which have a finalization method. The finalization methods of any such identified objects are then run on the main thread prior to reset of the first heap.